

(19) World Intellectual Property
Organization
International Bureau



544128

(43) International Publication Date
2 September 2004 (02.09.2004)

PCT

(10) International Publication Number
WO 2004/075511 A1

(51) International Patent Classification⁷: **H04L 29/08**,
12/26, 12/18, H04N 7/24, H04L 29/06

(21) International Application Number:
PCT/GB2004/000681

(22) International Filing Date: 19 February 2004 (19.02.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0303812.2 19 February 2003 (19.02.2003) GB

(71) Applicant (for all designated States except US): **BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY** [GB/GB]; 81 Newgate Street, London, Greater London EC1A 7AJ (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BURBRIDGE, Trevor** [GB/GB]; 4 Lonsdale Close, Ipswich, Suffolk

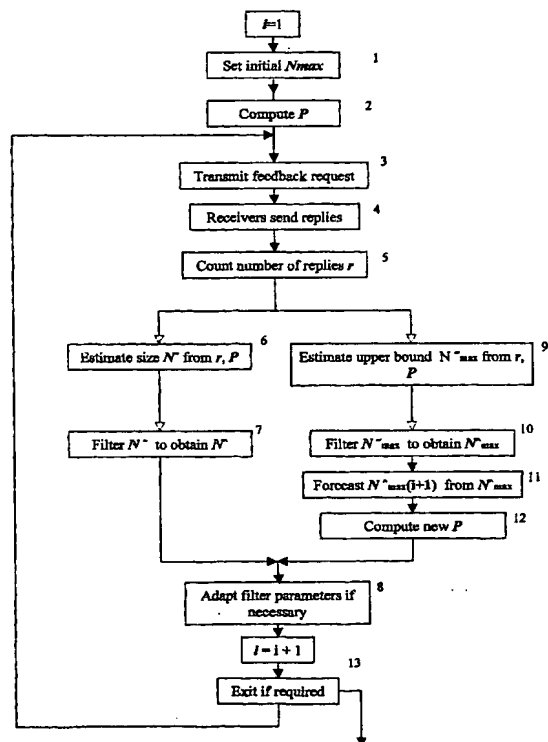
IP4 4BH (GB). **NEKOVEE, Maziar** [NL/GB]; 9 Wilkes Court, Kesgrave, Suffolk IP5 2EQ (GB). **SOPPERA, Andrea** [IT/GB]; 21 Almondhayes, Ipswich, Suffolk IP2 9SH (GB).

(74) Agent: **LLOYD, Barry, George, William**; Bt Group Legal, Bt Group Legal, Intellectual Property Department, PP C5A, BT Centre, 81 Newgate Street, London EC1A 7AJ (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: METHOD FOR TRACKING THE SIZE OF A MULTICAST AUDIENCE



(57) Abstract: The method involves transmitting to receivers receiving a multicast a plurality of requests for feedback (3), each request including a probability parameter (P). Each terminal replies to this (or not) with a corresponding probability (4). One then counts the number (r) of replies to each request (5); determines, from the counts and parameters, estimates of the number of receivers (6); and filters the estimates (7). The method further includes repeatedly computing a new probability parameter to be included in a subsequent feedback request, by forecasting, from the counts and parameters, an upper bound for the number of receivers (9, 10, 11) and determining from this the new probability parameter (12) such that the risk that the number of replies exceeds a predefined threshold is kept below a predefined value.



(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*